

SEQUENCE LISTING

<110> Applied Research Systems ARS holding N.V.

5 <120> NOVEL THERAPEUTIC FUSION PROTEINS

<130> WO895

<160> 24

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<170> PatentIn version 3.1

<210> 1

<211> 183

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<212> PRT

<213> Homo sapiens

<400> 1

20 Arg Leu Leu Arg Ser His Ser Leu His Tyr Leu Phe Met Gly Ala Ser
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25 Glu Gln Asp Leu Gly Leu Ser Leu Phe Glu Ala Leu Gly Tyr Val Asp
20 25 30

30 Asp Gln Leu Phe Val Phe Tyr Asp His Glu Ser Arg Arg Val Glu Pro
35 40 45

Arg Thr Pro Trp Val Ser Ser Arg Ile Ser Ser Gln Met Trp Leu Gln
50 55 60

35 Leu Ser Gln Ser Leu Lys Gly Trp Asp His Met Phe Thr Val Asp Phe
65 70 75 80

40 Trp Thr Ile Met Glu Asn His Asn His Ser Lys Glu Ser His Thr Leu
85 90 95

45 Gln Val Ile Leu Gly Cys Glu Met Gln Glu Asp Asn Ser Thr Glu Gly
100 105 110

Tyr Trp Lys Tyr Gly Tyr Asp Gly Gln Asp His Leu Glu Phe Cys Pro
115 120 125

50

Asp Thr Leu Asp Trp Arg Ala Ala Glu Pro Arg Ala Trp Pro Thr Lys
130 135 140

55

Leu Glu Trp Glu Arg His Lys Ile Arg Ala Arg Gln Asn Arg Ala Tyr
 145 150 155 160

5 Leu Glu Arg Asp Cys Pro Ala Gln Leu Gln Gln Leu Leu Glu Leu Gly
 165 170 175

10 Arg Gly Val Leu Asp Gln Gln
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15 <210> 2
 <211> 661
 <212> PRT
 <213> Homo sapiens
 <400> 2

20 Gly Pro Pro Val Ser Cys Ile Lys Arg Asp Ser Pro Ile Gln Cys Ile
 1 5 10 15

25 Gln Ala Ile Ala Glu Asn Arg Ala Asp Ala Val Thr Leu Asp Gly Gly
 20 25 30

30 Phe Ile Tyr Glu Ala Gly Leu Ala Pro Tyr Lys Leu Arg Pro Val Ala
 35 40 45

35 Ala Glu Val Tyr Gly Thr Glu Arg Gln Pro Arg Thr His Tyr Tyr Ala
 50 55 60

40 Val Ala Val Val Lys Lys Gly Gly Ser Phe Gln Leu Asn Glu Leu Gln
 65 70 75 80

40 Gly Leu Lys Ser Cys His Thr Gly Leu Arg Arg Thr Ala Gly Trp Asn
 85 90 95

45 Val Pro Ile Gly Thr Leu Arg Pro Phe Leu Asn Trp Thr Gly Pro Pro
 100 105 110

50 Glu Pro Ile Glu Ala Ala Val Ala Arg Phe Phe Ser Ala Ser Cys Val
 115 120 125

55 Pro Gly Ala Asp Lys Gly Gln Phe Pro Asn Leu Cys Arg Leu Cys Ala
 130 135 140

Gly Thr Gly Glu Asn Lys Cys Ala Phe Ser Ser Gln Glu Pro Tyr Phe
 145 150 155 160

5 Ser Tyr Ser Gly Ala Phe Lys Cys Leu Arg Asp Gly Ala Gly Asp Val
 165 170 175

10 Ala Phe Ile Arg Glu Ser Thr Val Phe Glu Asp Leu Ser Asp Glu Ala
 180 185 190

15 Glu Arg Asp Glu Tyr Glu Leu Leu Cys Pro Asp Asn Thr Arg Lys Pro
 195 200 205

Val Asp Lys Phe Lys Asp Cys His Leu Ala Arg Val Pro Ser His Ala
 210 215 220

20 Val Val Ala Arg Ser Val Asn Gly Lys Glu Asp Ala Ile Trp Asn Leu
 225 230 235 240

25 Leu Arg Gln Ala Gln Glu Lys Phe Gly Lys Asp Lys Ser Pro Lys Phe
 245 250 255

30 Gln Leu Phe Gly Ser Pro Ser Gly Gln Lys Asp Leu Leu Phe Lys Asp
 260 265 270

35 Ser Ala Ile Gly Phe Ser Arg Val Pro Pro Arg Ile Asp Ser Gly Leu
 275 280 285

Tyr Leu Gly Ser Gly Tyr Phe Thr Ala Ile Gln Asn Leu Arg Lys Ser
 290 295 300

40 Glu Glu Glu Val Ala Ala Arg Arg Ala Arg Val Val Trp Cys Ala Val
 305 310 315 320

45 Gly Glu Gln Glu Leu Arg Lys Cys Asn Gln Trp Ser Gly Leu Ser Glu
 325 330 335

50 Gly Ser Val Thr Cys Ser Ser Ala Ser Thr Thr Glu Asp Cys Ile Ala
 340 345 350

55 Leu Val Leu Lys Gly Glu Ala Asp Ala Met Ser Leu Asp Gly Gly Tyr
 355 360 365

Val Tyr Thr Ala Gly Lys Cys Gly Leu Val Pro Val Leu Ala Glu Asn
 370 375 380

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Tyr Lys Ser Gln Gln Ser Ser Asp Pro Asp Pro Asn Cys Val Asp Arg
 385 390 395 400

10

Pro Val Glu Gly Tyr Leu Ala Val Ala Val Val Arg Arg Ser Asp Thr
 405 410 415

15

Ser Leu Thr Trp Asn Ser Val Lys Gly Lys Lys Ser Cys His Thr Ala
 420 425 430

20

Val Asp Arg Thr Ala Gly Trp Asn Ile Pro Met Gly Leu Leu Phe Asn
 435 440 445

Gln Thr Gly Ser Cys Lys Phe Asp Glu Tyr Phe Ser Gln Ser Cys Ala
 450 455 460

25

Pro Gly Ser Asp Pro Arg Ser Asn Leu Cys Ala Leu Cys Ile Gly Asp
 465 470 475 480

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Glu Gln Gly Glu Asn Lys Cys Val Pro Asn Ser Asn Glu Arg Tyr Tyr
 485 490 495

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Gly Tyr Thr Gly Ala Phe Arg Cys Leu Ala Glu Asn Ala Gly Asp Val
 500 505 510

40

Ala Phe Val Lys Asp Val Thr Val Leu Gln Asn Thr Asp Gly Asn Asn
 515 520 525

Asn Glu Ala Trp Ala Lys Asp Leu Lys Leu Ala Asp Phe Ala Leu Leu
 530 535 540

45

Cys Leu Asp Gly Lys Arg Lys Pro Val Thr Glu Ala Arg Ser Cys His
 545 550 555 560

50

Leu Ala Met Ala Pro Asn His Ala Val Val Ser Arg Met Asp Lys Val
 565 570 575

55

Glu Arg Leu Lys Gln Val Leu Leu His Gln Gln Ala Lys Phe Gly Arg
 580 585 590

5 Asn Gly Ser Asp Cys Pro Asp Lys Phe Cys Leu Phe Gln Ser Glu Thr
 595 600 605

10 Lys Asn Leu Leu Phe Asn Asp Asn Thr Glu Cys Leu Ala Arg Leu His
 610 615 620

15 Gly Lys Thr Thr Tyr Glu Lys Tyr Leu Gly Pro Gln Tyr Val Ala Gly
 625 630 635 640

20 Ile Thr Asn Leu Lys Lys Cys Ser Thr Ser Pro Leu Leu Glu Ala Cys
 645 650 655

25 Glu Phe Leu Arg Lys
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30 <210> 3
 <211> 92
 <212> PRT
 <213> Homo sapiens
 <400> 3

35 Val Pro Pro Leu Val Lys Val Thr His His Val Thr Ser Ser Val Thr
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40 Thr Leu Arg Cys Arg Ala Leu Asn Tyr Tyr Pro Gln Asn Ile Thr Met
 20 25 30

45 Lys Trp Leu Lys Asp Lys Gln Pro Met Asp Ala Lys Glu Phe Glu Pro
 35 40 45

50 Lys Asp Val Leu Pro Asn Gly Asp Gly Thr Tyr Gln Gly Trp Ile Thr
 50 55 60

55 Leu Ala Val Pro Pro Gly Glu Glu Gln Arg Tyr Thr Cys Gln Val Glu
 65 70 75 80

60 His Pro Gly Leu Asp Gln Pro Leu Ile Val Ile Trp
 85 90

65 <210> 4
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<212> PRT
 <213> Artificial sequence
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<400> 4

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Gln Ala Ile Ala Glu Asn Arg Ala Asp Ala Val Thr Leu Asp Gly Gly
 20 25 30

15

Phe Ile Tyr Glu Ala Gly Leu Ala Pro Tyr Lys Leu Arg Pro Val Ala
 35 40 45

20

Ala Glu Val Tyr Gly Thr Glu Arg Gln Pro Arg Thr His Tyr Tyr Ala
 50 55 60

25

Val Ala Val Val Lys Lys Gly Gly Ser Phe Gln Leu Asn Glu Leu Gln
 65 70 75 80

30

Gly Leu Lys Ser Cys His Thr Gly Leu Arg Arg Thr Ala Gly Trp Asn
 85 90 95

Val Pro Ile Gly Thr Leu Arg Pro Phe Leu Asn Trp Thr Gly Pro Pro
 100 105 110

35

Glu Pro Ile Glu Ala Ala Val Ala Arg Phe Phe Ser Ala Ser Cys Val
 115 120 125

40

Pro Gly Ala Asp Lys Gly Gln Phe Pro Asn Leu Cys Arg Leu Cys Ala
 130 135 140

45

Gly Thr Gly Glu Asn Lys Cys Ala Phe Ser Ser Gln Glu Pro Tyr Phe
 145 150 155 160

50

Ser Tyr Ser Gly Ala Phe Lys Cys Leu Arg Asp Gly Ala Gly Asp Val
 165 170 175

Ala Phe Ile Arg Glu Ser Thr Val Phe Glu Asp Leu Ser Asp Glu Ala
 180 185 190

55

Glu Arg Asp Glu Tyr Glu Leu Leu Cys Pro Asp Asn Thr Arg Lys Pro
 195 200 205

5 Val Asp Lys Phe Lys Asp Cys His Leu Ala Arg Val Pro Ser His Ala
 210 215 220

10 Val Val Ala Arg Ser Val Asn Gly Lys Glu Asp Ala Ile Trp Asn Leu
 225 230 235 240

15 Leu Arg Gln Ala Gln Glu Lys Phe Gly Lys Asp Lys Ser Pro Lys Phe
 245 250 255

Gln Leu Phe Gly Ser Pro Ser Gly Gln Lys Asp Leu Leu Phe Lys Asp
 260 265 270

20 Ser Ala Ile Gly Phe Ser Arg Val Pro Pro Arg Ile Asp Ser Gly Leu
 275 280 285

25 Tyr Leu Gly Ser Gly Tyr Phe Thr Ala Ile Gln Asn Leu Arg Lys Ser
 290 295 300

30 Glu Glu Glu Val Ala Ala Arg Arg Ala Arg Val Val Trp Cys Ala Val
 305 310 315 320

35 Gly Glu Gln Glu Leu Arg Lys Cys Asn Gln Trp Ser Gly Leu Ser Glu
 325 330 335

Gly Ser Val Thr Cys Ser Ser Ala Ser Thr Thr Glu Asp Cys Ile Ala
 340 345 350

40 Leu Val Leu Lys Gly Glu Ala Asp Ala Met Ser Leu Asp Gly Gly Tyr
 355 360 365

45 Val Tyr Thr Ala Gly Lys Cys Gly Leu Val Pro Val Leu Ala Glu Asn
 370 375 380

50 Tyr Lys Ser Gln Gln Ser Ser Asp Pro Asp Pro Asn Cys Val Asp Arg
 385 390 395 400

55 Pro Val Glu Gly Tyr Leu Ala Val Ala Val Arg Arg Ser Asp Thr
 405 410 415

Ser Leu Thr Trp Asn Ser Val Lys Gly Lys Lys Ser Cys His Thr Ala
 420 425 430

5 Val Asp Arg Thr Ala Gly Trp Asn Ile Pro Met Gly Leu Leu Phe Asn
 435 440 445

10 Gln Thr Gly Ser Cys Lys Phe Asp Glu Tyr Phe Ser Gln Ser Cys Ala
 450 455 460

15 Pro Gly Ser Asp Pro Arg Ser Asn Leu Cys Ala Leu Cys Ile Gly Asp
 465 470 475 480

20 Glu Gln Gly Glu Asn Lys Cys Val Pro Asn Ser Asn Glu Arg Tyr Tyr
 485 490 495

Gly Tyr Thr Gly Ala Phe Arg Cys Leu Ala Glu Asn Ala Gly Asp Val
 500 505 510

25 Ala Phe Val Lys Asp Val Thr Val Leu Gln Asn Thr Asp Gly Asn Asn
 515 520 525

30 Asn Glu Ala Trp Ala Lys Asp Leu Lys Leu Ala Asp Phe Ala Leu Leu
 530 535 540

35 Cys Leu Asp Gly Lys Arg Lys Pro Val Thr Glu Ala Arg Ser Cys His
 545 550 555 560

40 Leu Ala Met Ala Pro Asn His Ala Val Val Ser Arg Met Asp Lys Val
 565 570 575

Glu Arg Leu Lys Gln Val Leu Leu His Gln Gln Ala Lys Phe Gly Arg
 580 585 590

45 Asn Gly Ser Asp Cys Pro Asp Lys Phe Cys Leu Phe Gln Ser Glu Thr
 595 600 605

50 Lys Asn Leu Leu Phe Asn Asp Asn Thr Glu Cys Leu Ala Arg Leu His
 610 615 620

55 Gly Lys Thr Thr Tyr Glu Lys Tyr Leu Gly Pro Gln Tyr Val Ala Gly
 625 630 635 640

Ile Thr Asn Leu Lys Lys Cys Ser Thr Ser Pro Leu Leu Glu Ala Cys
 645 650 655
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 Glu Phe Leu Arg Lys Val Pro Pro Leu Val Lys Val Thr His His Val
 660 665 670
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 Thr Ser Ser Val Thr Thr Leu Arg Cys Arg Ala Leu Asn Tyr Tyr Pro
 675 680 685
 15
 Gln Asn Ile Thr Met Lys Trp Leu Lys Asp Lys Gln Pro Met Asp Ala
 690 695 700
 20
 Lys Glu Phe Glu Pro Lys Asp Val Leu Pro Asn Gly Asp Gly Thr Tyr
 705 710 715 720
 25
 Gln Gly Trp Ile Thr Leu Ala Val Pro Pro Gly Glu Glu Gln Arg Tyr
 725 730 735
 30
 Thr Cys Gln Val Glu His Pro Gly Leu Asp Gln Pro Leu Ile Val Ile
 740 745 750
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 Trp
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 <400> 5
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 Arg Leu Leu Arg Ser His Ser Leu His Tyr Leu Phe Met Gly Ala Ser
 1 5 10 15
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 Glu Gln Asp Leu Gly Leu Ser Leu Phe Glu Ala Leu Gly Tyr Val Asp
 20 25 30
 55
 Asp Gln Leu Phe Val Phe Tyr Asp His Glu Ser Arg Arg Val Glu Pro
 35 40 45

Arg Thr Pro Trp Val Ser Ser Arg Ile Ser Ser Gln Met Trp Leu Gln
 50 55 60

5 Leu Ser Gln Ser Leu Lys Gly Trp Asp His Met Phe Thr Val Asp Phe
 65 70 75 80

10 Trp Thr Ile Met Glu Asn His Asn His Ser Lys Glu Ser His Thr Leu
 85 90 95

15 Gln Val Ile Leu Gly Cys Glu Met Gln Glu Asp Asn Ser Thr Glu Gly
 100 105 110

Tyr Trp Lys Tyr Gly Tyr Asp Gly Gln Asp His Leu Glu Phe Cys Pro
 115 120 125

20 Asp Thr Leu Asp Trp Arg Ala Ala Glu Pro Arg Ala Trp Pro Thr Lys
 130 135 140

25 Leu Glu Trp Glu Arg His Lys Ile Arg Ala Arg Gln Asn Arg Ala Tyr
 145 150 155 160

30 Leu Glu Arg Asp Cys Pro Ala Gln Leu Gln Gln Leu Leu Glu Leu Gly
 165 170 175

35 Arg Gly Val Leu Asp Gln Gln Val Pro Pro Leu Val Lys Val Thr His
 180 185 190

His Val Thr Ser Ser Val Thr Thr Leu Arg Cys Arg Ala Leu Asn Tyr
 195 200 205

40 Tyr Pro Gln Asn Ile Thr Met Lys Trp Leu Lys Asp Lys Gln Pro Met
 210 215 220

45 Asp Ala Lys Glu Phe Glu Pro Lys Asp Val Leu Pro Asn Gly Asp Gly
 225 230 235 240

50 Thr Tyr Gln Gly Trp Ile Thr Leu Ala Val Pro Pro Gly Glu Glu Gln
 245 250 255

55 Arg Tyr Thr Cys Gln Val Glu His Pro Gly Leu Asp Gln Pro Leu Ile
 260 265 270

Val Ile Trp
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<210> 6
<211> 753
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<400> 6

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20 Thr Leu Arg Cys Arg Ala Leu Asn Tyr Tyr Pro Gln Asn Ile Thr Met
20 25 30

Lys Trp Leu Lys Asp Lys Gln Pro Met Asp Ala Lys Glu Phe Glu Pro
35 40 45

25 Lys Asp Val Leu Pro Asn Gly Asp Gly Thr Tyr Gln Gly Trp Ile Thr
50 55 60

30 Leu Ala Val Pro Pro Gly Glu Glu Gln Arg Tyr Thr Cys Gln Val Glu
65 70 75 80

35 His Pro Gly Leu Asp Gln Pro Leu Ile Val Ile Trp Gly Pro Pro Val
85 90 95

40 Ser Cys Ile Lys Arg Asp Ser Pro Ile Gln Cys Ile Gln Ala Ile Ala
100 105 110

Glu Asn Arg Ala Asp Ala Val Thr Leu Asp Gly Gly Phe Ile Tyr Glu
115 120 125

45 Ala Gly Leu Ala Pro Tyr Lys Leu Arg Pro Val Ala Ala Glu Val Tyr
130 135 140

50 Gly Thr Glu Arg Gln Pro Arg Thr His Tyr Tyr Ala Val Ala Val Val
145 150 155 160

55 Lys Lys Gly Gly Ser Phe Gln Leu Asn Glu Leu Gln Gly Leu Lys Ser

	165	170	175
5	Cys His Thr Gly Leu Arg Arg Thr Ala Gly Trp Asn Val Pro Ile Gly 180 185 190		
10	Thr Leu Arg Pro Phe Leu Asn Trp Thr Gly Pro Pro Glu Pro Ile Glu 195 200 205		
15	Ala Ala Val Ala Arg Phe Phe Ser Ala Ser Cys Val Pro Gly Ala Asp 210 215 220		
20	Lys Gly Gln Phe Pro Asn Leu Cys Arg Leu Cys Ala Gly Thr Gly Glu 225 230 235 240		
25	Asn Lys Cys Ala Phe Ser Ser Gln Glu Pro Tyr Phe Ser Tyr Ser Gly 245 250 255		
30	Ala Phe Lys Cys Leu Arg Asp Gly Ala Gly Asp Val Ala Phe Ile Arg 260 265 270		
35	Glu Ser Thr Val Phe Glu Asp Leu Ser Asp Glu Ala Glu Arg Asp Glu 275 280 285		
40	Tyr Glu Leu Leu Cys Pro Asp Asn Thr Arg Lys Pro Val Asp Lys Phe 290 295 300		
45	Lys Asp Cys His Leu Ala Arg Val Pro Ser His Ala Val Val Ala Arg 305 310 315 320		
50	Ser Val Asn Gly Lys Glu Asp Ala Ile Trp Asn Leu Leu Arg Gln Ala 325 330 335		
55	Gln Glu Lys Phe Gly Lys Asp Lys Ser Pro Lys Phe Gln Leu Phe Gly 340 345 350		
	Ser Pro Ser Gly Gln Lys Asp Leu Leu Phe Lys Asp Ser Ala Ile Gly 355 360 365		
	Phe Ser Arg Val Pro Pro Arg Ile Asp Ser Gly Leu Tyr Leu Gly Ser 370 375 380		

Gly Tyr Phe Thr Ala Ile Gln Asn Leu Arg Lys Ser Glu Glu Glu Val
 385 390 395 400

5 Ala Ala Arg Arg Ala Arg Val Val Trp Cys Ala Val Gly Glu Gln Glu
 405 410 415

10 Leu Arg Lys Cys Asn Gln Trp Ser Gly Leu Ser Glu Gly Ser Val Thr
 420 425 430

15 Cys Ser Ser Ala Ser Thr Thr Glu Asp Cys Ile Ala Leu Val Leu Lys
 435 440 445

Gly Glu Ala Asp Ala Met Ser Leu Asp Gly Gly Tyr Val Tyr Thr Ala
 450 455 460

20 Gly Lys Cys Gly Leu Val Pro Val Leu Ala Glu Asn Tyr Lys Ser Gln
 465 470 475 480

25 Gln Ser Ser Asp Pro Asp Pro Asn Cys Val Asp Arg Pro Val Glu Gly
 485 490 495

30 Tyr Leu Ala Val Ala Val Val Arg Arg Ser Asp Thr Ser Leu Thr Trp
 500 505 510

35 Asn Ser Val Lys Gly Lys Lys Ser Cys His Thr Ala Val Asp Arg Thr
 515 520 525

Ala Gly Trp Asn Ile Pro Met Gly Leu Leu Phe Asn Gln Thr Gly Ser
 530 535 540

40 Cys Lys Phe Asp Glu Tyr Phe Ser Gln Ser Cys Ala Pro Gly Ser Asp
 545 550 555 560

45 Pro Arg Ser Asn Leu Cys Ala Leu Cys Ile Gly Asp Glu Gln Gly Glu
 565 570 575

50 Asn Lys Cys Val Pro Asn Ser Asn Glu Arg Tyr Tyr Gly Tyr Thr Gly
 580 585 590

55 Ala Phe Arg Cys Leu Ala Glu Asn Ala Gly Asp Val Ala Phe Val Lys
 595 600 605

Asp Val Thr Val Leu Gln Asn Thr Asp Gly Asn Asn Asn Glu Ala Trp
610 615 620

5
Ala Lys Asp Leu Lys Leu Ala Asp Phe Ala Leu Leu Cys Leu Asp Gly
625 630 635 640

10
Lys Arg Lys Pro Val Thr Glu Ala Arg Ser Cys His Leu Ala Met Ala
645 650 655

15
Pro Asn His Ala Val Val Ser Arg Met Asp Lys Val Glu Arg Leu Lys
660 665 670

20
Gln Val Leu Leu His Gln Gln Ala Lys Phe Gly Arg Asn Gly Ser Asp
675 680 685

25
Cys Pro Asp Lys Phe Cys Leu Phe Gln Ser Glu Thr Lys Asn Leu Leu
690 695 700

30
Phe Asn Asp Asn Thr Glu Cys Leu Ala Arg Leu His Gly Lys Thr Thr
705 710 715 720

35
Tyr Glu Lys Tyr Leu Gly Pro Gln Tyr Val Ala Gly Ile Thr Asn Leu
725 730 735

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Lys Lys Cys Ser Thr Ser Pro Leu Leu Glu Ala Cys Glu Phe Leu Arg
740 745 750

Lys

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<210> 7
<211> 275
<212> PRT
<213> Artificial sequence
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Val Pro Pro Leu Val Lys Val Thr His His Val Thr Ser Ser Val Thr
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Thr Leu Arg Cys Arg Ala Leu Asn Tyr Tyr Pro Gln Asn Ile Thr Met

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5	Lys Trp Leu Lys Asp Lys Gln Pro Met Asp Ala Lys Glu Phe Glu Pro 35 40 45		
10	Lys Asp Val Leu Pro Asn Gly Asp Gly Thr Tyr Gln Gly Trp Ile Thr 50 55 60		
15	Leu Ala Val Pro Pro Gly Glu Glu Gln Arg Tyr Thr Cys Gln Val Glu 65 70 75 80		
20	His Pro Gly Leu Asp Gln Pro Leu Ile Val Ile Trp Arg Leu Leu Arg 85 90 95		
25	Ser His Ser Leu His Tyr Leu Phe Met Gly Ala Ser Glu Gln Asp Leu 100 105 110		
30	Gly Leu Ser Leu Phe Glu Ala Leu Gly Tyr Val Asp Asp Gln Leu Phe 115 120 125		
35	Val Phe Tyr Asp His Glu Ser Arg Arg Val Glu Pro Arg Thr Pro Trp 130 135 140		
40	Val Ser Ser Arg Ile Ser Ser Gln Met Trp Leu Gln Leu Ser Gln Ser 145 150 155 160		
45	Leu Lys Gly Trp Asp His Met Phe Thr Val Asp Phe Trp Thr Ile Met 165 170 175		
50	Glu Asn His Asn His Ser Lys Glu Ser His Thr Leu Gln Val Ile Leu 180 185 190		
55	Gly Cys Glu Met Gln Glu Asp Asn Ser Thr Glu Gly Tyr Trp Lys Tyr 195 200 205		
	Gly Tyr Asp Gly Gln Asp His Leu Glu Phe Cys Pro Asp Thr Leu Asp 210 215 220		
	Trp Arg Ala Ala Glu Pro Arg Ala Trp Pro Thr Lys Leu Glu Trp Glu 225 230 235 240		

Arg His Lys Ile Arg Ala Arg Gln Asn Arg Ala Tyr Leu Glu Arg Asp
245 250 255

5 Cys Pro Ala Gln Leu Gln Gln Leu Leu Glu Leu Gly Arg Gly Val Leu
260 265 270

10 Asp Gln Gln
275

<210> 8
<211> 21
15 <212> PRT
<213> Mus musculus

<400> 8

20 Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
1 5 10 15

25 Gly Ser Thr Gly Asp
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<210> 9
<211> 20
30 <212> PRT
<213> Homo sapiens

<400> 9

35 Met Glu Thr Pro Ala Gln Leu Leu Phe Leu Leu Leu Leu Trp Leu Pro
1 5 10 15

40 Asp Thr Thr Gly
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<210> 10
<211> 301
45 <212> PRT
<213> Homo sapiens

<400> 10

50 Ser Lys Leu Lys Asp Pro Glu Leu Ser Leu Lys Gly Thr Gln His Ile
1 5 10 15

55 Met Gln Ala Gly Gln Thr Leu His Leu Gln Cys Arg Gly Glu Ala Ala
20 25 30

5 His Lys Trp Ser Leu Pro Glu Met Val Ser Lys Glu Ser Glu Arg Leu
 35 40 45

10 Ser Ile Thr Lys Ser Ala Cys Gly Arg Asn Gly Lys Gln Phe Cys Ser
 50 55 60

15 Thr Leu Thr Leu Asn Thr Ala Gln Ala Asn His Thr Gly Phe Tyr Ser
 65 70 75 80

20 Cys Lys Tyr Leu Ala Val Pro Thr Ser Lys Lys Lys Glu Thr Glu Ser
 85 90 95

25 Ala Ile Tyr Ile Phe Ile Ser Asp Thr Gly Arg Pro Phe Val Glu Met
 100 105 110

30 Tyr Ser Glu Ile Pro Glu Ile Ile His Met Thr Glu Gly Arg Glu Leu
 115 120 125

35 Val Ile Pro Cys Arg Val Thr Ser Pro Asn Ile Thr Val Thr Leu Lys
 130 135 140

40 Lys Phe Pro Leu Asp Thr Leu Ile Pro Asp Gly Lys Arg Ile Ile Trp
 145 150 155 160

45 Asp Ser Arg Lys Gly Phe Ile Ile Ser Asn Ala Thr Tyr Lys Glu Ile
 165 170 175

50 Gly Leu Leu Thr Cys Glu Ala Thr Val Asn Gly His Leu Tyr Lys Thr
 180 185 190

55 Asn Tyr Leu Thr His Arg Gln Thr Asn Thr Ile Ile Asp Val Gln Ile
 195 200 205

60 Ser Thr Pro Arg Pro Val Lys Leu Leu Arg Gly His Thr Leu Val Leu
 210 215 220

65 Asn Cys Thr Ala Thr Thr Pro Leu Asn Thr Arg Val Gln Met Thr Trp
 225 230 235 240

70 Ser Tyr Pro Asp Glu Lys Asn Lys Arg Ala Ser Val Arg Arg Arg Ile

Trp Thr Gly Pro Pro Glu Pro Ile Glu Ala Ala Val Ala Arg Phe Phe
 130 135 140

5

Ser Ala Ser Cys Val Pro Gly Ala Asp Lys Gly Gln Phe Pro Asn Leu
 145 150 155 160

10

Cys Arg Leu Cys Ala Gly Thr Gly Glu Asn Lys Cys Ala Phe Ser Ser
 165 170 175

15

Gln Glu Pro Tyr Phe Ser Tyr Ser Gly Ala Phe Lys Cys Leu Arg Asp
 180 185 190

20

Gly Ala Gly Asp Val Ala Phe Ile Arg Glu Ser Thr Val Phe Glu Asp
 195 200 205

Leu Ser Asp Glu Ala Glu Arg Asp Glu Tyr Glu Leu Leu Cys Pro Asp
 210 215 220

25

Asn Thr Arg Lys Pro Val Asp Lys Phe Lys Asp Cys His Leu Ala Arg
 225 230 235 240

30

Val Pro Ser His Ala Val Val Ala Arg Ser Val Asn Gly Lys Glu Asp
 245 250 255

35

Ala Ile Trp Asn Leu Leu Arg Gln Ala Gln Glu Lys Phe Gly Lys Asp
 260 265 270

40

Lys Ser Pro Lys Phe Gln Leu Phe Gly Ser Pro Ser Gly Gln Lys Asp
 275 280 285

Leu Leu Phe Lys Asp Ser Ala Ile Gly Phe Ser Arg Val Pro Pro Arg
 290 295 300

45

Ile Asp Ser Gly Leu Tyr Leu Gly Ser Gly Tyr Phe Thr Ala Ile Gln
 305 310 315 320

50

Asn Leu Arg Lys Ser Glu Glu Glu Val Ala Ala Arg Arg Ala Arg Val
 325 330 335

55

Val Trp Cys Ala Val Gly Glu Gln Glu Leu Arg Lys Cys Asn Gln Trp
 340 345 350

5 Ser Gly Leu Ser Glu Gly Ser Val Thr Cys Ser Ser Ala Ser Thr Thr
 355 360 365
 Glu Asp Cys Ile Ala Leu Val Leu Lys Gly Glu Ala Asp Ala Met Ser
 370 375 380
 10 Leu Asp Gly Gly Tyr Val Tyr Thr Ala Gly Lys Cys Gly Leu Val Pro
 385 390 395 400
 15 Val Leu Ala Glu Asn Tyr Lys Ser Gln Gln Ser Ser Asp Pro Asp Pro
 405 410 415
 20 Asn Cys Val Asp Arg Pro Val Glu Gly Tyr Leu Ala Val Ala Val Val
 420 425 430
 Arg Arg Ser Asp Thr Ser Leu Thr Trp Asn Ser Val Lys Gly Lys Lys
 435 440 445
 25 Ser Cys His Thr Ala Val Asp Arg Thr Ala Gly Trp Asn Ile Pro Met
 450 455 460
 30 Gly Leu Leu Phe Asn Gln Thr Gly Ser Cys Lys Phe Asp Glu Tyr Phe
 465 470 475 480
 35 Ser Gln Ser Cys Ala Pro Gly Ser Asp Pro Arg Ser Asn Leu Cys Ala
 485 490 495
 40 Leu Cys Ile Gly Asp Glu Gln Gly Glu Asn Lys Cys Val Pro Asn Ser
 500 505 510
 Asn Glu Arg Tyr Tyr Gly Tyr Thr Gly Ala Phe Arg Cys Leu Ala Glu
 515 520 525
 45 Asn Ala Gly Asp Val Ala Phe Val Lys Asp Val Thr Val Leu Gln Asn
 530 535 540
 50 Thr Asp Gly Asn Asn Asn Glu Ala Trp Ala Lys Asp Leu Lys Leu Ala
 545 550 555 560
 55 Asp Phe Ala Leu Leu Cys Leu Asp Gly Lys Arg Lys Pro Val Thr Glu

	565	570	575
5	Ala Arg Ser Cys His Leu Ala Met	Ala Pro Asn His Ala Val Val Ser	
	580	585	590
10	Arg Met Asp Lys Val Glu Arg Leu Lys Gln Val Leu Leu His Gln Gln		
	595	600	605
15	Ala Lys Phe Gly Arg Asn Gly Ser Asp Cys Pro Asp Lys Phe Cys Leu		
	610	615	620
20	Phe Gln Ser Glu Thr Lys Asn Leu Leu Phe Asn Asp Asn Thr Glu Cys		
	625	630	635
25	Leu Ala Arg Leu His Gly Lys Thr Thr Tyr Glu Lys Tyr Leu Gly Pro		
	645	650	655
30	Gln Tyr Val Ala Gly Ile Thr Asn Leu Lys Lys Cys Ser Thr Ser Pro		
	660	665	670
35	Leu Leu Glu Ala Cys Glu Phe Leu Arg Lys Val Pro Pro Leu Val Lys		
	675	680	685
40	Val Thr His His Val Thr Ser Ser Val Thr Thr Leu Arg Cys Arg Ala		
	690	695	700
45	Leu Asn Tyr Tyr Pro Gln Asn Ile Thr Met Lys Trp Leu Lys Asp Lys		
	705	710	715
50	Gln Pro Met Asp Ala Lys Glu Phe Glu Pro Lys Asp Val Leu Pro Asn		
	725	730	735
55	Gly Asp Gly Thr Tyr Ser Lys Leu Lys Asp Pro Glu Leu Ser Leu Lys		
	740	745	750
60	Gly Thr Gln His Ile Met Gln Ala Gly Gln Thr Leu His Leu Gln Cys		
	755	760	765
65	Arg Gly Glu Ala Ala His Lys Trp Ser Leu Pro Glu Met Val Ser Lys		
	770	775	780

Glu Ser Glu Arg Leu Ser Ile Thr Lys Ser Ala Cys Gly Arg Asn Gly
 785 790 795 800

5 Lys Gln Phe Cys Ser Thr Leu Thr Leu Asn Thr Ala Gln Ala Asn His
 805 810 815

10 Thr Gly Phe Tyr Ser Cys Lys Tyr Leu Ala Val Pro Thr Ser Lys Lys
 820 825 830

15 Lys Glu Thr Glu Ser Ala Ile Tyr Ile Phe Ile Ser Asp Thr Gly Arg
 835 840 845

Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu Ile Ile His Met Thr
 850 855 860

20 Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val Thr Ser Pro Asn Ile
 865 870 875 880

25 Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr Leu Ile Pro Asp Gly
 885 890 895

30 Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe Ile Ile Ser Asn Ala
 900 905 910

35 Thr Tyr Lys Glu Ile Gly Leu Leu Thr Cys Glu Ala Thr Val Asn Gly
 915 920 925

His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg Gln Thr Asn Thr Ile
 930 935 940

40 Ile Asp Val Gln Ile Ser Thr Pro Arg Pro Val Lys Leu Leu Arg Gly
 945 950 955 960

45 His Thr Leu Val Leu Asn Cys Thr Ala Thr Thr Pro Leu Asn Thr Arg
 965 970 975

50 Val Gln Met Thr Trp Ser Tyr Pro Asp Glu Lys Asn Lys Arg Ala Ser
 980 985 990

55 Val Arg Arg Arg Ile Asp Gln Ser Asn Ser His Ala Asn Ile Phe Tyr
 995 1000 1005

Ser Val Leu Thr Ile Asp Lys Met Gln Asn Lys Asp Lys Gly Leu
 1010 1015 1020

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Tyr Thr Cys Arg Val Arg Ser Gly Pro Ser Phe Lys Ser Val Asn
 1025 1030 1035

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Thr Ser Val His
 1040

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<400> 12

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Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
 1 5 10 15

Gly Ser Thr Gly Asp Arg Leu Leu Arg Ser His Ser Leu His Tyr Leu
 20 25 30

30

Phe Met Gly Ala Ser Glu Gln Asp Leu Gly Leu Ser Leu Phe Glu Ala
 35 40 45

35

Leu Gly Tyr Val Asp Asp Gln Leu Phe Val Phe Tyr Asp His Glu Ser
 50 55 60

40

Arg Arg Val Glu Pro Arg Thr Pro Trp Val Ser Ser Arg Ile Ser Ser
 65 70 75 80

45

Gln Met Trp Leu Gln Leu Ser Gln Ser Leu Lys Gly Trp Asp His Met
 85 90 95

Phe Thr Val Asp Phe Trp Thr Ile Met Glu Asn His Asn His Ser Lys
 100 105 110

50

Glu Ser His Thr Leu Gln Val Ile Leu Gly Cys Glu Met Gln Glu Asp
 115 120 125

55

Asn Ser Thr Glu Gly Tyr Trp Lys Tyr Gly Tyr Asp Gly Gln Asp His

130 135 140
 5 Leu Glu Phe Cys Pro Asp Thr Leu Asp Trp Arg Ala Ala Glu Pro Arg
 145 150 155 160

 10 Ala Trp Pro Thr Lys Leu Glu Trp Glu Arg His Lys Ile Arg Ala Arg
 165 170 175

 15 Gln Asn Arg Ala Tyr Leu Glu Arg Asp Cys Pro Ala Gln Leu Gln Gln
 180 185 190

 20 Leu Leu Glu Leu Gly Arg Gly Val Leu Asp Gln Gln Val Pro Pro Leu
 195 200 205

 25 Val Lys Val Thr His His Val Thr Ser Ser Val Thr Thr Leu Arg Cys
 210 215 220

 30 Arg Ala Leu Asn Tyr Tyr Pro Gln Asn Ile Thr Met Lys Trp Leu Lys
 225 230 235 240

 35 Asp Lys Gln Pro Met Asp Ala Lys Glu Phe Glu Pro Lys Asp Val Leu
 245 250 255

 40 Pro Asn Gly Asp Gly Thr Tyr Gln Gly Trp Ile Thr Leu Ala Val Pro
 260 265 270

 45 Pro Gly Glu Glu Gln Arg Tyr Thr Cys Gln Val Glu His Pro Gly Leu
 275 280 285

 50 Asp Gln Pro Leu Ile Val Ile Trp Ser Lys Leu Lys Asp Pro Glu Leu
 290 295 300

 55 Ser Leu Lys Gly Thr Gln His Ile Met Gln Ala Gly Gln Thr Leu His
 305 310 315 320

 60 Leu Gln Cys Arg Gly Glu Ala Ala His Lys Trp Ser Leu Pro Glu Met
 325 330 335

 65 Val Ser Lys Glu Ser Glu Arg Leu Ser Ile Thr Lys Ser Ala Cys Gly
 340 345 350

Arg Asn Gly Lys Gln Phe Cys Ser Thr Leu Thr Leu Asn Thr Ala Gln
 355 360 365

5 Ala Asn His Thr Gly Phe Tyr Ser Cys Lys Tyr Leu Ala Val Pro Thr
 370 375 380

10 Ser Lys Lys Lys Glu Thr Glu Ser Ala Ile Tyr Ile Phe Ile Ser Asp
 385 390 395 400

15 Thr Gly Arg Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu Ile Ile
 405 410 415

His Met Thr Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val Thr Ser
 420 425 430

20 Pro Asn Ile Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr Leu Ile
 435 440 445

25 Pro Asp Gly Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe Ile Ile
 450 455 460

30 Ser Asn Ala Thr Tyr Lys Glu Ile Gly Leu Leu Thr Cys Glu Ala Thr
 465 470 475 480

35 Val Asn Gly His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg Gln Thr
 485 490 495

Asn Thr Ile Ile Asp Val Gln Ile Ser Thr Pro Arg Pro Val Lys Leu
 500 505 510

40 Leu Arg Gly His Thr Leu Val Leu Asn Cys Thr Ala Thr Thr Pro Leu
 515 520 525

45 Asn Thr Arg Val Gln Met Thr Trp Ser Tyr Pro Asp Glu Lys Asn Lys
 530 535 540

50 Arg Ala Ser Val Arg Arg Arg Ile Asp Gln Ser Asn Ser His Ala Asn
 545 550 555 560

55 Ile Phe Tyr Ser Val Leu Thr Ile Asp Lys Met Gln Asn Lys Asp Lys
 565 570 575

Gly Leu Tyr Thr Cys Arg Val Arg Ser Gly Pro Ser Phe Lys Ser Val
580 585 590

5 Asn Thr Ser Val His
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Gly Ser Thr Gly Asp Ser Lys Leu Lys Asp Pro Glu Leu Ser Leu Lys
20 25 30

25 Gly Thr Gln His Ile Met Gln Ala Gly Gln Thr Leu His Leu Gln Cys
35 40 45

30 Arg Gly Glu Ala Ala His Lys Trp Ser Leu Pro Glu Met Val Ser Lys
50 55 60

35 Glu Ser Glu Arg Leu Ser Ile Thr Lys Ser Ala Cys Gly Arg Asn Gly
65 70 75 80

40 Lys Gln Phe Cys Ser Thr Leu Thr Leu Asn Thr Ala Gln Ala Asn His
85 90 95

45 Thr Gly Phe Tyr Ser Cys Lys Tyr Leu Ala Val Pro Thr Ser Lys Lys
100 105 110

Lys Glu Thr Glu Ser Ala Ile Tyr Ile Phe Ile Ser Asp Thr Gly Arg
115 120 125

50 Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu Ile Ile His Met Thr
130 135 140

55 Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val Thr Ser Pro Asn Ile

145 150 155 160
 5 Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr Leu Ile Pro Asp Gly
 165 170 175
 10 Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe Ile Ile Ser Asn Ala
 180 185 190
 15 Thr Tyr Lys Glu Ile Gly Leu Leu Thr Cys Glu Ala Thr Val Asn Gly
 195 200 205
 20 His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg Gln Thr Asn Thr Ile
 210 215 220
 25 Ile Asp Val Gln Ile Ser Thr Pro Arg Pro Val Lys Leu Leu Arg Gly
 225 230 235 240
 30 His Thr Leu Val Leu Asn Cys Thr Ala Thr Thr Pro Leu Asn Thr Arg
 245 250 255
 35 Val Gln Met Thr Trp Ser Tyr Pro Asp Glu Lys Asn Lys Arg Ala Ser
 260 265 270
 40 Val Arg Arg Arg Ile Asp Gln Ser Asn Ser His Ala Asn Ile Phe Tyr
 275 280 285
 45 Ser Val Leu Thr Ile Asp Lys Met Gln Asn Lys Asp Lys Gly Leu Tyr
 290 295 300
 50 Thr Cys Arg Val Arg Ser Gly Pro Ser Phe Lys Ser Val Asn Thr Ser
 305 310 315 320
 55 Val His Gly Pro Pro Val Ser Cys Ile Lys Arg Asp Ser Pro Ile Gln
 325 330 335
 60 Cys Ile Gln Ala Ile Ala Glu Asn Arg Ala Asp Ala Val Thr Leu Asp
 340 345 350
 65 Gly Gly Phe Ile Tyr Glu Ala Gly Leu Ala Pro Tyr Lys Leu Arg Pro
 355 360 365

Val Ala Ala Glu Val Tyr Gly Thr Glu Arg Gln Pro Arg Thr His Tyr
 370 375 380

5 Tyr Ala Val Ala Val Val Lys Lys Gly Gly Ser Phe Gln Leu Asn Glu
 385 390 395 400

10 Leu Gln Gly Leu Lys Ser Cys His Thr Gly Leu Arg Arg Thr Ala Gly
 405 410 415

15 Trp Asn Val Pro Ile Gly Thr Leu Arg Pro Phe Leu Asn Trp Thr Gly
 420 425 430

Pro Pro Glu Pro Ile Glu Ala Ala Val Ala Arg Phe Phe Ser Ala Ser
 435 440 445

20 Cys Val Pro Gly Ala Asp Lys Gly Gln Phe Pro Asn Leu Cys Arg Leu
 450 455 460

25 Cys Ala Gly Thr Gly Glu Asn Lys Cys Ala Phe Ser Ser Gln Glu Pro
 465 470 475 480

30 Tyr Phe Ser Tyr Ser Gly Ala Phe Lys Cys Leu Arg Asp Gly Ala Gly
 485 490 495

35 Asp Val Ala Phe Ile Arg Glu Ser Thr Val Phe Glu Asp Leu Ser Asp
 500 505 510

Glu Ala Glu Arg Asp Glu Tyr Glu Leu Leu Cys Pro Asp Asn Thr Arg
 515 520 525

40 Lys Pro Val Asp Lys Phe Lys Asp Cys His Leu Ala Arg Val Pro Ser
 530 535 540

45 His Ala Val Val Ala Arg Ser Val Asn Gly Lys Glu Asp Ala Ile Trp
 545 550 555 560

50 Asn Leu Leu Arg Gln Ala Gln Glu Lys Phe Gly Lys Asp Lys Ser Pro
 565 570 575

55 Lys Phe Gln Leu Phe Gly Ser Pro Ser Gly Gln Lys Asp Leu Leu Phe
 580 585 590

Lys Asp Ser Ala Ile Gly Phe Ser Arg Val Pro Pro Arg Ile Asp Ser
 595 600 605

5

Gly Leu Tyr Leu Gly Ser Gly Tyr Phe Thr Ala Ile Gln Asn Leu Arg
 610 615 620

10

Lys Ser Glu Glu Glu Val Ala Ala Arg Arg Ala Arg Val Val Trp Cys
 625 630 635 640

15

Ala Val Gly Glu Gln Glu Leu Arg Lys Cys Asn Gln Trp Ser Gly Leu
 645 650 655

20

Ser Glu Gly Ser Val Thr Cys Ser Ser Ala Ser Thr Thr Glu Asp Cys
 660 665 670

25

Ile Ala Leu Val Leu Lys Gly Glu Ala Asp Ala Met Ser Leu Asp Gly
 675 680 685

30

Gly Tyr Val Tyr Thr Ala Gly Lys Cys Gly Leu Val Pro Val Leu Ala
 690 695 700

35

Glu Asn Tyr Lys Ser Gln Gln Ser Ser Asp Pro Asp Pro Asn Cys Val
 705 710 715 720

40

Asp Arg Pro Val Glu Gly Tyr Leu Ala Val Ala Val Val Arg Arg Ser
 725 730 735

45

Asp Thr Ser Leu Thr Trp Asn Ser Val Lys Gly Lys Lys Ser Cys His
 740 745 750

50

Thr Ala Val Asp Arg Thr Ala Gly Trp Asn Ile Pro Met Gly Leu Leu
 755 760 765

55

Phe Asn Gln Thr Gly Ser Cys Lys Phe Asp Glu Tyr Phe Ser Gln Ser
 770 775 780

Cys Ala Pro Gly Ser Asp Pro Arg Ser Asn Leu Cys Ala Leu Cys Ile
 785 790 795 800

Gly Asp Glu Gln Gly Glu Asn Lys Cys Val Pro Asn Ser Asn Glu Arg
 805 810 815

Tyr Tyr Gly Tyr Thr Gly Ala Phe Arg Cys Leu Ala Glu Asn Ala Gly
 820 825 830
 5
 Asp Val Ala Phe Val Lys Asp Val Thr Val Leu Gln Asn Thr Asp Gly
 835 840 845
 10
 Asn Asn Asn Glu Ala Trp Ala Lys Asp Leu Lys Leu Ala Asp Phe Ala
 850 855 860
 15
 Leu Leu Cys Leu Asp Gly Lys Arg Lys Pro Val Thr Glu Ala Arg Ser
 865 870 875 880
 20
 Cys His Leu Ala Met Ala Pro Asn His Ala Val Val Ser Arg Met Asp
 885 890 895
 25
 Lys Val Glu Arg Leu Lys Gln Val Leu Leu His Gln Gln Ala Lys Phe
 900 905 910
 30
 Gly Arg Asn Gly Ser Asp Cys Pro Asp Lys Phe Cys Leu Phe Gln Ser
 915 920 925
 35
 Glu Thr Lys Asn Leu Leu Phe Asn Asp Asn Thr Glu Cys Leu Ala Arg
 930 935 940
 40
 Leu His Gly Lys Thr Thr Tyr Glu Lys Tyr Leu Gly Pro Gln Tyr Val
 945 950 955 960
 45
 Ala Gly Ile Thr Asn Leu Lys Lys Cys Ser Thr Ser Pro Leu Leu Glu
 965 970 975
 50
 Ala Cys Glu Phe Leu Arg Lys Val Pro Pro Leu Val Lys Val Thr His
 980 985 990
 55
 His Val Thr Ser Ser Val Thr Thr Leu Arg Cys Arg Ala Leu Asn Tyr
 995 1000 1005
 Tyr Pro Gln Asn Ile Thr Met Lys Trp Leu Lys Asp Lys Gln Pro
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 Met Asp Ala Lys Glu Phe Glu Pro Lys Asp Val Leu Pro Asn Gly

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 5 Asp Gly Thr Tyr
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 20 Gly Ser Thr Gly Asp Ser Lys Leu Lys Asp Pro Glu Leu Ser Leu Lys
 20 25 30
 25 Gly Thr Gln His Ile Met Gln Ala Gly Gln Thr Leu His Leu Gln Cys
 35 40 45
 30 Arg Gly Glu Ala Ala His Lys Trp Ser Leu Pro Glu Met Val Ser Lys
 50 55 60
 35 Glu Ser Glu Arg Leu Ser Ile Thr Lys Ser Ala Cys Gly Arg Asn Gly
 65 70 75 80
 40 Lys Gln Phe Cys Ser Thr Leu Thr Leu Asn Thr Ala Gln Ala Asn His
 85 90 95
 45 Thr Gly Phe Tyr Ser Cys Lys Tyr Leu Ala Val Pro Thr Ser Lys Lys
 100 105 110
 50 Lys Glu Thr Glu Ser Ala Ile Tyr Ile Phe Ile Ser Asp Thr Gly Arg
 115 120 125
 55 Pro Phe Val Glu Met Tyr Ser Glu Ile Pro Glu Ile Ile His Met Thr
 130 135 140
 Glu Gly Arg Glu Leu Val Ile Pro Cys Arg Val Thr Ser Pro Asn Ile
 145 150 155 160

Thr Val Thr Leu Lys Lys Phe Pro Leu Asp Thr Leu Ile Pro Asp Gly
 165 170 175
 5 Lys Arg Ile Ile Trp Asp Ser Arg Lys Gly Phe Ile Ile Ser Asn Ala
 180 185 190
 10 Thr Tyr Lys Glu Ile Gly Leu Leu Thr Cys Glu Ala Thr Val Asn Gly
 195 200 205
 15 His Leu Tyr Lys Thr Asn Tyr Leu Thr His Arg Gln Thr Asn Thr Ile
 210 215 220
 Ile Asp Val Gln Ile Ser Thr Pro Arg Pro Val Lys Leu Leu Arg Gly
 225 230 235 240
 20 His Thr Leu Val Leu Asn Cys Thr Ala Thr Thr Pro Leu Asn Thr Arg
 245 250 255
 25 Val Gln Met Thr Trp Ser Tyr Pro Asp Glu Lys Asn Lys Arg Ala Ser
 260 265 270
 30 Val Arg Arg Arg Ile Asp Gln Ser Asn Ser His Ala Asn Ile Phe Tyr
 275 280 285
 35 Ser Val Leu Thr Ile Asp Lys Met Gln Asn Lys Asp Lys Gly Leu Tyr
 290 295 300
 Thr Cys Arg Val Arg Ser Gly Pro Ser Phe Lys Ser Val Asn Thr Ser
 305 310 315 320
 40 Val His Arg Leu Leu Arg Ser His Ser Leu His Tyr Leu Phe Met Gly
 325 330 335
 45 Ala Ser Glu Gln Asp Leu Gly Leu Ser Leu Phe Glu Ala Leu Gly Tyr
 340 345 350
 50 Val Asp Asp Gln Leu Phe Val Phe Tyr Asp His Glu Ser Arg Arg Val
 355 360 365
 55 Glu Pro Arg Thr Pro Trp Val Ser Ser Arg Ile Ser Ser Gln Met Trp
 370 375 380

[illegible]

595

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 15 Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys
 20 25 30

 20 Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser
 35 40 45

 25 Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys
 50 55 60

 Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp
 65 70 75 80

 30 Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp
 85 90 95

 35 Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly
 100 105 110

 40 Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys
 115 120 125

 45 His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn
 130 135 140

 Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu
 145 150 155 160

 50 Asn Val Lys Gly Thr Glu Asp Ser Gly Thr Thr Val Leu Leu Pro Leu
 165 170 175

 55 Val Ile Phe Phe Gly Leu Cys Leu Leu Ser Leu Leu Phe Ile Gly Leu

180 185 190
 5 Met Tyr Arg Tyr Gln Arg Trp Lys Ser Lys Leu Tyr Ser Ile Val Cys
 195 200 205
 Gly Lys Ser Thr Pro Glu Lys Glu Gly Glu Leu Glu Gly Thr Thr Thr
 210 215 220
 10 Lys Pro Leu Ala Pro Asn Pro Ser Phe Ser Pro Thr Pro Gly Phe Thr
 225 230 235 240
 15 Pro Thr Leu Gly Phe Ser Pro Val Pro Ser Ser
 245 250
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 20 25 30
 35 Pro Ile Gln Cys Ile Gln Ala Ile Ala Glu Asn Arg Ala Asp Ala Val
 35 40 45
 40 Thr Leu Asp Gly Gly Phe Ile Tyr Glu Ala Gly Leu Ala Pro Tyr Lys
 50 55 60
 45 Leu Arg Pro Val Ala Ala Glu Val Tyr Gly Thr Glu Arg Gln Pro Arg
 65 70 75 80
 50 Thr His Tyr Tyr Ala Val Ala Val Val Lys Lys Gly Gly Ser Phe Gln
 85 90 95
 Leu Asn Glu Leu Gln Gly Leu Lys Ser Cys His Thr Gly Leu Arg Arg
 100 105 110
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Thr Ala Gly Trp Asn Val Pro Ile Gly Thr Leu Arg Pro Phe Leu Asn
 115 120 125

5

Trp Thr Gly Pro Pro Glu Pro Ile Glu Ala Ala Val Ala Arg Phe Phe
 130 135 140

10

Ser Ala Ser Cys Val Pro Gly Ala Asp Lys Gly Gln Phe Pro Asn Leu
 145 150 155 160

15

Cys Arg Leu Cys Ala Gly Thr Gly Glu Asn Lys Cys Ala Phe Ser Ser
 165 170 175

20

Gln Glu Pro Tyr Phe Ser Tyr Ser Gly Ala Phe Lys Cys Leu Arg Asp
 180 185 190

25

Gly Ala Gly Asp Val Ala Phe Ile Arg Glu Ser Thr Val Phe Glu Asp
 195 200 205

30

Leu Ser Asp Glu Ala Glu Arg Asp Glu Tyr Glu Leu Leu Cys Pro Asp
 210 215 220

35

Asn Thr Arg Lys Pro Val Asp Lys Phe Lys Asp Cys His Leu Ala Arg
 225 230 235 240

40

Val Pro Ser His Ala Val Val Ala Arg Ser Val Asn Gly Lys Glu Asp
 245 250 255

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Ala Ile Trp Asn Leu Leu Arg Gln Ala Gln Glu Lys Phe Gly Lys Asp
 260 265 270

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Lys Ser Pro Lys Phe Gln Leu Phe Gly Ser Pro Ser Gly Gln Lys Asp
 275 280 285

55

Leu Leu Phe Lys Asp Ser Ala Ile Gly Phe Ser Arg Val Pro Pro Arg
 290 295 300

Ile Asp Ser Gly Leu Tyr Leu Gly Ser Gly Tyr Phe Thr Ala Ile Gln
 305 310 315 320

Asn Leu Arg Lys Ser Glu Glu Glu Val Ala Ala Arg Arg Ala Arg Val
 325 330 335

5 Val Trp Cys Ala Val Gly Glu Gln Glu Leu Arg Lys Cys Asn Gln Trp
 340 345 350
 Ser Gly Leu Ser Glu Gly Ser Val Thr Cys Ser Ser Ala Ser Thr Thr
 355 360 365
 10 Glu Asp Cys Ile Ala Leu Val Leu Lys Gly Glu Ala Asp Ala Met Ser
 370 375 380
 15 Leu Asp Gly Gly Tyr Val Tyr Thr Ala Gly Lys Cys Gly Leu Val Pro
 385 390 395 400
 20 Val Leu Ala Glu Asn Tyr Lys Ser Gln Gln Ser Ser Asp Pro Asp Pro
 405 410 415
 25 Asn Cys Val Asp Arg Pro Val Glu Gly Tyr Leu Ala Val Ala Val Val
 420 425 430
 Arg Arg Ser Asp Thr Ser Leu Thr Trp Asn Ser Val Lys Gly Lys Lys
 435 440 445
 30 Ser Cys His Thr Ala Val Asp Arg Thr Ala Gly Trp Asn Ile Pro Met
 450 455 460
 35 Gly Leu Leu Phe Asn Gln Thr Gly Ser Cys Lys Phe Asp Glu Tyr Phe
 465 470 475 480
 40 Ser Gln Ser Cys Ala Pro Gly Ser Asp Pro Arg Ser Asn Leu Cys Ala
 485 490 495
 45 Leu Cys Ile Gly Asp Glu Gln Gly Glu Asn Lys Cys Val Pro Asn Ser
 500 505 510
 Asn Glu Arg Tyr Tyr Gly Tyr Thr Gly Ala Phe Arg Cys Leu Ala Glu
 515 520 525
 50 Asn Ala Gly Asp Val Ala Phe Val Lys Asp Val Thr Val Leu Gln Asn
 530 535 540
 55 Thr Asp Gly Asn Asn Asn Glu Ala Trp Ala Lys Asp Leu Lys Leu Ala

	545		550		555		560
5	Asp Phe Ala Leu Leu Cys Leu Asp Gly Lys Arg Lys Pro Val Thr Glu	565	570	575			
10	Ala Arg Ser Cys His Leu Ala Met Ala Pro Asn His Ala Val Val Ser	580	585	590			
15	Arg Met Asp Lys Val Glu Arg Leu Lys Gln Val Leu Leu His Gln Gln	595	600	605			
20	Ala Lys Phe Gly Arg Asn Gly Ser Asp Cys Pro Asp Lys Phe Cys Leu	610	615	620			
25	Phe Gln Ser Glu Thr Lys Asn Leu Leu Phe Asn Asp Asn Thr Glu Cys	625	630	635			
30	Leu Ala Arg Leu His Gly Lys Thr Thr Tyr Glu Lys Tyr Leu Gly Pro	645	650	655			
35	Gln Tyr Val Ala Gly Ile Thr Asn Leu Lys Lys Cys Ser Thr Ser Pro	660	665	670			
40	Leu Leu Glu Ala Cys Glu Phe Leu Arg Lys Val Pro Pro Leu Val Lys	675	680	685			
45	Val Thr His His Val Thr Ser Ser Val Thr Thr Leu Arg Cys Arg Ala	690	695	700			
50	Leu Asn Tyr Tyr Pro Gln Asn Ile Thr Met Lys Trp Leu Lys Asp Lys	705	710	715			
55	Gln Pro Met Asp Ala Lys Glu Phe Glu Pro Lys Asp Val Leu Pro Asn	725	730	735			
	Gly Asp Gly Thr Tyr Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His	740	745	750			
	Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr	755	760	765			

Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu
 770 775 780

5 Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys
 785 790 795 800

10 Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser
 805 810 815

15 Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln
 820 825 830

Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser
 835 840 845

20 Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn
 850 855 860

25 Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys
 865 870 875 880

30 Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys
 885 890 895

35 Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser Gly Thr Thr
 900 905 910

Val Leu Leu Pro Leu Val Ile Phe Phe Gly Leu Cys Leu Leu Ser Leu
 915 920 925

40 Leu Phe Ile Gly Leu Met Tyr Arg Tyr Gln Arg Trp Lys Ser Lys Leu
 930 935 940

45 Tyr Ser Ile Val Cys Gly Lys Ser Thr Pro Glu Lys Glu Gly Glu Leu
 945 950 955 960

50 Glu Gly Thr Thr Thr Lys Pro Leu Ala Pro Asn Pro Ser Phe Ser Pro
 965 970 975

55 Thr Pro Gly Phe Thr Pro Thr Leu Gly Phe Ser Pro Val Pro Ser Ser
 980 985 990

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 15 Gly Ser Thr Gly Asp Arg Leu Leu Arg Ser His Ser Leu His Tyr Leu
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 Phe Met Gly Ala Ser Glu Gln Asp Leu Gly Leu Ser Leu Phe Glu Ala
 20 35 40 45

 Leu Gly Tyr Val Asp Asp Gln Leu Phe Val Phe Tyr Asp His Glu Ser
 25 50 55 60

 Arg Arg Val Glu Pro Arg Thr Pro Trp Val Ser Ser Arg Ile Ser Ser
 65 70 75 80

 30 Gln Met Trp Leu Gln Leu Ser Gln Ser Leu Lys Gly Trp Asp His Met
 85 90 95

 35 Phe Thr Val Asp Phe Trp Thr Ile Met Glu Asn His Asn His Ser Lys
 100 105 110

 Glu Ser His Thr Leu Gln Val Ile Leu Gly Cys Glu Met Gln Glu Asp
 40 115 120 125

 Asn Ser Thr Glu Gly Tyr Trp Lys Tyr Gly Tyr Asp Gly Gln Asp His
 45 130 135 140

 Leu Glu Phe Cys Pro Asp Thr Leu Asp Trp Arg Ala Ala Glu Pro Arg
 145 150 155 160

 50 Ala Trp Pro Thr Lys Leu Glu Trp Glu Arg His Lys Ile Arg Ala Arg
 165 170 175

 55 Gln Asn Arg Ala Tyr Leu Glu Arg Asp Cys Pro Ala Gln Leu Gln Gln

	180	185	190
5	Leu Leu Glu Leu Gly Arg Gly Val Leu Asp Gln Gln Val Pro Pro Leu 195 200 205		
10	Val Lys Val Thr His His Val Thr Ser Ser Val Thr Thr Leu Arg Cys 210 215 220		
15	Arg Ala Leu Asn Tyr Tyr Pro Gln Asn Ile Thr Met Lys Trp Leu Lys 225 230 235 240		
20	Asp Lys Gln Pro Met Asp Ala Lys Glu Phe Glu Pro Lys Asp Val Leu 245 250 255		
25	Pro Asn Gly Asp Gly Thr Tyr Gln Gly Trp Ile Thr Leu Ala Val Pro 260 265 270		
30	Pro Gly Glu Glu Gln Arg Tyr Thr Cys Gln Val Glu His Pro Gly Leu 275 280 285		
35	Asp Gln Pro Leu Ile Val Ile Trp Asp Ser Val Cys Pro Gln Gly Lys 290 295 300		
40	Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys 305 310 315 320		
45	Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp 325 330 335		
50	Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu 340 345 350		
55	Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val 355 360 365		
	Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg 370 375 380		
	Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe 385 390 395 400		

Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu
 405 410 415

5 Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu
 420 425 430

10 Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr
 435 440 445

15 Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser
 450 455 460

20 Gly Thr Thr Val Leu Leu Pro Leu Val Ile Phe Phe Gly Leu Cys Leu
 465 470 475 480

25 Leu Ser Leu Leu Phe Ile Gly Leu Met Tyr Arg Tyr Gln Arg Trp Lys
 485 490 495

30 Ser Lys Leu Tyr Ser Ile Val Cys Gly Lys Ser Thr Pro Glu Lys Glu
 500 505 510

35 Gly Glu Leu Glu Gly Thr Thr Thr Lys Pro Leu Ala Pro Asn Pro Ser
 515 520 525

40 Phe Ser Pro Thr Pro Gly Phe Thr Pro Thr Leu Gly Phe Ser Pro Val
 530 535 540

45 Pro Ser Ser
 545

50 Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
 1 5 10 15

55 Gly Ser Thr Gly Asp Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His
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15	Gln	Ala 290	Ile	Ala	Glu	Asn	Arg 295	Ala	Asp	Ala	Val	Thr 300	Leu	Asp	Gly	Gly
20	Phe 305	Ile	Tyr	Glu	Ala	Gly 310	Leu	Ala	Pro	Tyr	Lys 315	Leu	Arg	Pro	Val	Ala 320
25	Ala	Glu	Val	Tyr	Gly 325	Thr	Glu	Arg	Gln	Pro 330	Arg	Thr	His	Tyr	Tyr 335	Ala
30	Val	Ala	Val	Val 340	Lys	Lys	Gly	Gly	Ser 345	Phe	Gln	Leu	Asn	Glu 350	Leu	Gln
35	Gly	Leu	Lys 355	Ser	Cys	His	Thr	Gly 360	Leu	Arg	Arg	Thr	Ala 365	Gly	Trp	Asn
40	Val	Pro 370	Ile	Gly	Thr	Leu	Arg 375	Pro	Phe	Leu	Asn	Trp 380	Thr	Gly	Pro	Pro
45	Glu	Pro	Ile	Glu	Ala	Ala 390	Val	Ala	Arg	Phe	Phe 395	Ser	Ala	Ser	Cys	Val 400
50	Pro	Gly	Ala	Asp	Lys 405	Gly	Gln	Phe	Pro	Asn 410	Leu	Cys	Arg	Leu	Cys 415	Ala
55	Gly	Thr	Gly	Glu 420	Asn	Lys	Cys	Ala	Phe 425	Ser	Ser	Gln	Glu	Pro 430	Tyr	Phe
60	Ser	Tyr	Ser 435	Gly	Ala	Phe	Lys	Cys 440	Leu	Arg	Asp	Gly	Ala 445	Gly	Asp	Val
65	Ala	Phe	Ile	Arg	Glu	Ser	Thr 455	Val	Phe	Glu	Asp	Leu 460	Ser	Asp	Glu	Ala

	Glu	Arg	Asp	Glu	Tyr	Glu	Leu	Leu	Cys	Pro	Asp	Asn	Thr	Arg	Lys	Pro	465	470	475	480
5	Val	Asp	Lys	Phe	Lys	Asp	Cys	His	Leu	Ala	Arg	Val	Pro	Ser	His	Ala		485	490	495
10	Val	Val	Ala	Arg	Ser	Val	Asn	Gly	Lys	Glu	Asp	Ala	Ile	Trp	Asn	Leu	500		505	510
15	Leu	Arg	Gln	Ala	Gln	Glu	Lys	Phe	Gly	Lys	Asp	Lys	Ser	Pro	Lys	Phe	515	520		525
	Gln	Leu	Phe	Gly	Ser	Pro	Ser	Gly	Gln	Lys	Asp	Leu	Leu	Phe	Lys	Asp	530	535	540	
20	Ser	Ala	Ile	Gly	Phe	Ser	Arg	Val	Pro	Pro	Arg	Ile	Asp	Ser	Gly	Leu	545	550	555	560
25	Tyr	Leu	Gly	Ser	Gly	Tyr	Phe	Thr	Ala	Ile	Gln	Asn	Leu	Arg	Lys	Ser		565	570	575
30	Glu	Glu	Glu	Val	Ala	Ala	Arg	Arg	Ala	Arg	Val	Val	Trp	Cys	Ala	Val	580	585		590
35	Gly	Glu	Gln	Glu	Leu	Arg	Lys	Cys	Asn	Gln	Trp	Ser	Gly	Leu	Ser	Glu	595	600		605
	Gly	Ser	Val	Thr	Cys	Ser	Ser	Ala	Ser	Thr	Thr	Glu	Asp	Cys	Ile	Ala	610	615	620	
40	Leu	Val	Leu	Lys	Gly	Glu	Ala	Asp	Ala	Met	Ser	Leu	Asp	Gly	Gly	Tyr	625	630	635	640
45	Val	Tyr	Thr	Ala	Gly	Lys	Cys	Gly	Leu	Val	Pro	Val	Leu	Ala	Glu	Asn		645	650	655
50	Tyr	Lys	Ser	Gln	Gln	Ser	Ser	Asp	Pro	Asp	Pro	Asn	Cys	Val	Asp	Arg	660	665		670
55	Pro	Val	Glu	Gly	Tyr	Leu	Ala	Val	Ala	Val	Val	Arg	Arg	Ser	Asp	Thr	675	680	685	

Ser Leu Thr Trp Asn Ser Val Lys Gly Lys Lys Ser Cys His Thr Ala
 690 695 700

5 Val Asp Arg Thr Ala Gly Trp Asn Ile Pro Met Gly Leu Leu Phe Asn
 705 710 715 720

10 Gln Thr Gly Ser Cys Lys Phe Asp Glu Tyr Phe Ser Gln Ser Cys Ala
 725 730 735

15 Pro Gly Ser Asp Pro Arg Ser Asn Leu Cys Ala Leu Cys Ile Gly Asp
 740 745 750

20 Glu Gln Gly Glu Asn Lys Cys Val Pro Asn Ser Asn Glu Arg Tyr Tyr
 755 760 765

Gly Tyr Thr Gly Ala Phe Arg Cys Leu Ala Glu Asn Ala Gly Asp Val
 770 775 780

25 Ala Phe Val Lys Asp Val Thr Val Leu Gln Asn Thr Asp Gly Asn Asn
 785 790 795 800

30 Asn Glu Ala Trp Ala Lys Asp Leu Lys Leu Ala Asp Phe Ala Leu Leu
 805 810 815

35 Cys Leu Asp Gly Lys Arg Lys Pro Val Thr Glu Ala Arg Ser Cys His
 820 825 830

40 Leu Ala Met Ala Pro Asn His Ala Val Val Ser Arg Met Asp Lys Val
 835 840 845

Glu Arg Leu Lys Gln Val Leu Leu His Gln Gln Ala Lys Phe Gly Arg
 850 855 860

45 Asn Gly Ser Asp Cys Pro Asp Lys Phe Cys Leu Phe Gln Ser Glu Thr
 865 870 875 880

50 Lys Asn Leu Leu Phe Asn Asp Asn Thr Glu Cys Leu Ala Arg Leu His
 885 890 895

55 Gly Lys Thr Thr Tyr Glu Lys Tyr Leu Gly Pro Gln Tyr Val Ala Gly
 900 905 910

5 Ile Thr Asn Leu Lys Lys Cys Ser Thr Ser Pro Leu Leu Glu Ala Cys
 915 920 925

10 Glu Phe Leu Arg Lys Val Pro Pro Leu Val Lys Val Thr His His Val
 930 935 940

15 Thr Ser Ser Val Thr Thr Leu Arg Cys Arg Ala Leu Asn Tyr Tyr Pro
 945 950 955 960

20 Gln Asn Ile Thr Met Lys Trp Leu Lys Asp Lys Gln Pro Met Asp Ala
 965 970 975

25 Lys Glu Phe Glu Pro Lys Asp Val Leu Pro Asn Gly Asp Gly Thr Tyr
 980 985 990

30 <210> 19
 <211> 547
 <212> PRT
 <213> Artificial sequence
 <220>
 <223>

35 Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
 1 5 10 15

40 Gly Ser Thr Gly Asp Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His
 20 25 30

45 Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr
 35 40 45

50 Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu
 50 55 60

55 Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys
 65 70 75 80

60 Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser
 85 90 95

Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln
 100 105 110

5 Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser
 115 120 125

10 Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn
 130 135 140

15 Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys
 145 150 155 160

Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys
 165 170 175

20 Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser Gly Thr Thr
 180 185 190

25 Val Leu Leu Pro Leu Val Ile Phe Phe Gly Leu Cys Leu Leu Ser Leu
 195 200 205

30 Leu Phe Ile Gly Leu Met Tyr Arg Tyr Gln Arg Trp Lys Ser Lys Leu
 210 215 220

35 Tyr Ser Ile Val Cys Gly Lys Ser Thr Pro Glu Lys Glu Gly Glu Leu
 225 230 235 240

Glu Gly Thr Thr Thr Lys Pro Leu Ala Pro Asn Pro Ser Phe Ser Pro
 245 250 255

40 Thr Pro Gly Phe Thr Pro Thr Leu Gly Phe Ser Pro Val Pro Ser Ser
 260 265 270

45 Arg Leu Leu Arg Ser His Ser Leu His Tyr Leu Phe Met Gly Ala Ser
 275 280 285

50 Glu Gln Asp Leu Gly Leu Ser Leu Phe Glu Ala Leu Gly Tyr Val Asp
 290 295 300

55 Asp Gln Leu Phe Val Phe Tyr Asp His Glu Ser Arg Arg Val Glu Pro
 305 310 315 320

Arg Thr Pro Trp Val Ser Ser Arg Ile Ser Ser Gln Met Trp Leu Gln
 325 330 335

5

Leu Ser Gln Ser Leu Lys Gly Trp Asp His Met Phe Thr Val Asp Phe
 340 345 350

10

Trp Thr Ile Met Glu Asn His Asn His Ser Lys Glu Ser His Thr Leu
 355 360 365

15

Gln Val Ile Leu Gly Cys Glu Met Gln Glu Asp Asn Ser Thr Glu Gly
 370 375 380

20

Tyr Trp Lys Tyr Gly Tyr Asp Gly Gln Asp His Leu Glu Phe Cys Pro
 385 390 395 400

Asp Thr Leu Asp Trp Arg Ala Ala Glu Pro Arg Ala Trp Pro Thr Lys
 405 410 415

25

Leu Glu Trp Glu Arg His Lys Ile Arg Ala Arg Gln Asn Arg Ala Tyr
 420 425 430

30

Leu Glu Arg Asp Cys Pro Ala Gln Leu Gln Gln Leu Leu Glu Leu Gly
 435 440 445

35

Arg Gly Val Leu Asp Gln Gln Val Pro Pro Leu Val Lys Val Thr His
 450 455 460

40

His Val Thr Ser Ser Val Thr Thr Leu Arg Cys Arg Ala Leu Asn Tyr
 465 470 475 480

Tyr Pro Gln Asn Ile Thr Met Lys Trp Leu Lys Asp Lys Gln Pro Met
 485 490 495

45

Asp Ala Lys Glu Phe Glu Pro Lys Asp Val Leu Pro Asn Gly Asp Gly
 500 505 510

50

Thr Tyr Gln Gly Trp Ile Thr Leu Ala Val Pro Pro Gly Glu Glu Gln
 515 520 525

55

Arg Tyr Thr Cys Gln Val Glu His Pro Gly Leu Asp Gln Pro Leu Ile
 530 535 540

Val Ile Trp
 545
 5
 <210> 20
 <211> 169
 <212> PRT
 10 <213> Homo sapiens
 <400> 20
 Thr Pro Val Ser Gln Thr Thr Thr Ala Ala Thr Ala Ser Val Arg Ser
 15 1 5 10 15
 Thr Lys Asp Pro Cys Pro Ser Gln Pro Pro Val Phe Pro Ala Ala Lys
 20 20 25 30
 Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu
 35 40 45
 25 Asn Gly Thr Leu Ser Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn
 50 55 60
 30 Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu
 65 70 75 80
 Pro Gly Arg Leu Trp Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr
 35 85 90 95
 Gly Thr Gln Leu Cys Lys Ala Leu Val Leu Glu Gln Leu Thr Pro Ala
 100 105 110
 40 Leu His Ser Thr Asn Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val
 115 120 125
 45 Val Gln Arg His Val Val Leu Ala Gln Leu Trp Val Arg Ser Pro Arg
 130 135 140
 50 Arg Gly Leu Gln Glu Gln Glu Glu Leu Cys Phe His Met Trp Gly Gly
 145 150 155 160
 Lys Gly Gly Leu Cys Gln Ser Ser Leu
 55 165

5 <210> 21
 <211> 910
 <212> PRT
 <213> Artificial sequence
 <220>
 <223>

10 <400> 21
 Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
 1 5 10 15
 15 Gly Ser Thr Gly Asp Gly Pro Pro Val Ser Cys Ile Lys Arg Asp Ser
 20 25 30
 20 Pro Ile Gln Cys Ile Gln Ala Ile Ala Glu Asn Arg Ala Asp Ala Val
 35 40 45
 25 Thr Leu Asp Gly Gly Phe Ile Tyr Glu Ala Gly Leu Ala Pro Tyr Lys
 50 55 60
 Leu Arg Pro Val Ala Ala Glu Val Tyr Gly Thr Glu Arg Gln Pro Arg
 65 70 75 80
 30 Thr His Tyr Tyr Ala Val Ala Val Val Lys Lys Gly Gly Ser Phe Gln
 85 90 95
 35 Leu Asn Glu Leu Gln Gly Leu Lys Ser Cys His Thr Gly Leu Arg Arg
 100 105 110
 40 Thr Ala Gly Trp Asn Val Pro Ile Gly Thr Leu Arg Pro Phe Leu Asn
 115 120 125
 45 Trp Thr Gly Pro Pro Glu Pro Ile Glu Ala Ala Val Ala Arg Phe Phe
 130 135 140
 Ser Ala Ser Cys Val Pro Gly Ala Asp Lys Gly Gln Phe Pro Asn Leu
 145 150 155 160
 50 Cys Arg Leu Cys Ala Gly Thr Gly Glu Asn Lys Cys Ala Phe Ser Ser
 165 170 175
 55

Gln Glu Pro Tyr Phe Ser Tyr Ser Gly Ala Phe Lys Cys Leu Arg Asp
 180 185 190

5 Gly Ala Gly Asp Val Ala Phe Ile Arg Glu Ser Thr Val Phe Glu Asp
 195 200 205

10 Leu Ser Asp Glu Ala Glu Arg Asp Glu Tyr Glu Leu Leu Cys Pro Asp
 210 215 220

15 Asn Thr Arg Lys Pro Val Asp Lys Phe Lys Asp Cys His Leu Ala Arg
 225 230 235 240

Val Pro Ser His Ala Val Val Ala Arg Ser Val Asn Gly Lys Glu Asp
 245 250 255

20 Ala Ile Trp Asn Leu Leu Arg Gln Ala Gln Glu Lys Phe Gly Lys Asp
 260 265 270

25 Lys Ser Pro Lys Phe Gln Leu Phe Gly Ser Pro Ser Gly Gln Lys Asp
 275 280 285

30 Leu Leu Phe Lys Asp Ser Ala Ile Gly Phe Ser Arg Val Pro Pro Arg
 290 295 300

35 Ile Asp Ser Gly Leu Tyr Leu Gly Ser Gly Tyr Phe Thr Ala Ile Gln
 305 310 315 320

Asn Leu Arg Lys Ser Glu Glu Glu Val Ala Ala Arg Arg Ala Arg Val
 325 330 335

40 Val Trp Cys Ala Val Gly Glu Gln Glu Leu Arg Lys Cys Asn Gln Trp
 340 345 350

45 Ser Gly Leu Ser Glu Gly Ser Val Thr Cys Ser Ser Ala Ser Thr Thr
 355 360 365

50 Glu Asp Cys Ile Ala Leu Val Leu Lys Gly Glu Ala Asp Ala Met Ser
 370 375 380

55 Leu Asp Gly Gly Tyr Val Tyr Thr Ala Gly Lys Cys Gly Leu Val Pro
 385 390 395 400

Val Leu Ala Glu Asn Tyr Lys Ser Gln Gln Ser Ser Asp Pro Asp Pro
 405 410 415
 5
 Asn Cys Val Asp Arg Pro Val Glu Gly Tyr Leu Ala Val Ala Val Val
 420 425 430
 10
 Arg Arg Ser Asp Thr Ser Leu Thr Trp Asn Ser Val Lys Gly Lys Lys
 435 440 445
 15
 Ser Cys His Thr Ala Val Asp Arg Thr Ala Gly Trp Asn Ile Pro Met
 450 455 460
 20
 Gly Leu Leu Phe Asn Gln Thr Gly Ser Cys Lys Phe Asp Glu Tyr Phe
 465 470 475 480
 Ser Gln Ser Cys Ala Pro Gly Ser Asp Pro Arg Ser Asn Leu Cys Ala
 485 490 495
 25
 Leu Cys Ile Gly Asp Glu Gln Gly Glu Asn Lys Cys Val Pro Asn Ser
 500 505 510
 30
 Asn Glu Arg Tyr Tyr Gly Tyr Thr Gly Ala Phe Arg Cys Leu Ala Glu
 515 520 525
 35
 Asn Ala Gly Asp Val Ala Phe Val Lys Asp Val Thr Val Leu Gln Asn
 530 535 540
 40
 Thr Asp Gly Asn Asn Asn Glu Ala Trp Ala Lys Asp Leu Lys Leu Ala
 545 550 555 560
 Asp Phe Ala Leu Leu Cys Leu Asp Gly Lys Arg Lys Pro Val Thr Glu
 565 570 575
 45
 Ala Arg Ser Cys His Leu Ala Met Ala Pro Asn His Ala Val Val Ser
 580 585 590
 50
 Arg Met Asp Lys Val Glu Arg Leu Lys Gln Val Leu Leu His Gln Gln
 595 600 605
 55
 Ala Lys Phe Gly Arg Asn Gly Ser Asp Cys Pro Asp Lys Phe Cys Leu
 610 615 620

5 Phe Gln Ser Glu Thr Lys Asn Leu Leu Phe Asn Asp Asn Thr Glu Cys
 625 630 635 640
 Leu Ala Arg Leu His Gly Lys Thr Thr Tyr Glu Lys Tyr Leu Gly Pro
 645 650 655
 10 Gln Tyr Val Ala Gly Ile Thr Asn Leu Lys Lys Cys Ser Thr Ser Pro
 660 665 670
 15 Leu Leu Glu Ala Cys Glu Phe Leu Arg Lys Val Pro Pro Leu Val Lys
 675 680 685
 20 Val Thr His His Val Thr Ser Ser Val Thr Thr Leu Arg Cys Arg Ala
 690 695 700
 25 Leu Asn Tyr Tyr Pro Gln Asn Ile Thr Met Lys Trp Leu Lys Asp Lys
 705 710 715 720
 Gln Pro Met Asp Ala Lys Glu Phe Glu Pro Lys Asp Val Leu Pro Asn
 725 730 735
 30 Gly Asp Gly Thr Tyr Thr Pro Val Ser Gln Thr Thr Thr Ala Ala Thr
 740 745 750
 35 Ala Ser Val Arg Ser Thr Lys Asp Pro Cys Pro Ser Gln Pro Pro Val
 755 760 765
 40 Phe Pro Ala Ala Lys Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu
 770 775 780
 45 Val Glu Val Pro Leu Asn Gly Thr Leu Ser Leu Ser Cys Val Ala Cys
 785 790 795 800
 Ser Arg Phe Pro Asn Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser
 805 810 815
 50 Phe Ile Glu His Leu Pro Gly Arg Leu Trp Glu Gly Ser Thr Ser Arg
 820 825 830
 55 Glu Arg Gly Ser Thr Gly Thr Gln Leu Cys Lys Ala Leu Val Leu Glu

835 840 845
 5 Gln Leu Thr Pro Ala Leu His Ser Thr Asn Phe Ser Cys Val Leu Val
 850 855 860
 10 Asp Pro Glu Gln Val Val Gln Arg His Val Val Leu Ala Gln Leu Trp
 865 870 875 880
 Val Arg Ser Pro Arg Arg Gly Leu Gln Glu Gln Glu Glu Leu Cys Phe
 885 890 895
 15 His Met Trp Gly Gly Lys Gly Gly Leu Cys Gln Ser Ser Leu
 900 905 910
 20 <210> 22
 <211> 465
 <212> PRT
 <213> Artificial sequence
 <220>
 25 <223>
 <400> 22
 30 Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
 1 5 10 15
 Gly Ser Thr Gly Asp Arg Leu Leu Arg Ser His Ser Leu His Tyr Leu
 20 25 30
 35 Phe Met Gly Ala Ser Glu Gln Asp Leu Gly Leu Ser Leu Phe Glu Ala
 35 40 45
 40 Leu Gly Tyr Val Asp Asp Gln Leu Phe Val Phe Tyr Asp His Glu Ser
 50 55 60
 45 Arg Arg Val Glu Pro Arg Thr Pro Trp Val Ser Ser Arg Ile Ser Ser
 65 70 75 80
 50 Gln Met Trp Leu Gln Leu Ser Gln Ser Leu Lys Gly Trp Asp His Met
 85 90 95
 Phe Thr Val Asp Phe Trp Thr Ile Met Glu Asn His Asn His Ser Lys
 100 105 110
 55

Glu Ser His Thr Leu Gln Val Ile Leu Gly Cys Glu Met Gln Glu Asp
 115 120 125

5

Asn Ser Thr Glu Gly Tyr Trp Lys Tyr Gly Tyr Asp Gly Gln Asp His
 130 135 140

10

Leu Glu Phe Cys Pro Asp Thr Leu Asp Trp Arg Ala Ala Glu Pro Arg
 145 150 155 160

15

Ala Trp Pro Thr Lys Leu Glu Trp Glu Arg His Lys Ile Arg Ala Arg
 165 170 175

20

Gln Asn Arg Ala Tyr Leu Glu Arg Asp Cys Pro Ala Gln Leu Gln Gln
 180 185 190

25

Leu Leu Glu Leu Gly Arg Gly Val Leu Asp Gln Gln Val Pro Pro Leu
 195 200 205

30

Val Lys Val Thr His His Val Thr Ser Ser Val Thr Thr Leu Arg Cys
 210 215 220

35

Arg Ala Leu Asn Tyr Tyr Pro Gln Asn Ile Thr Met Lys Trp Leu Lys
 225 230 235 240

40

Asp Lys Gln Pro Met Asp Ala Lys Glu Phe Glu Pro Lys Asp Val Leu
 245 250 255

45

Pro Asn Gly Asp Gly Thr Tyr Gln Gly Trp Ile Thr Leu Ala Val Pro
 260 265 270

50

Pro Gly Glu Glu Gln Arg Tyr Thr Cys Gln Val Glu His Pro Gly Leu
 275 280 285

55

Asp Gln Pro Leu Ile Val Ile Trp Thr Pro Val Ser Gln Thr Thr Thr
 290 295 300

Ala Ala Thr Ala Ser Val Arg Ser Thr Lys Asp Pro Cys Pro Ser Gln
 305 310 315 320

Pro Pro Val Phe Pro Ala Ala Lys Gln Cys Pro Ala Leu Glu Val Thr
 325 330 335

5 Trp Pro Glu Val Glu Val Pro Leu Asn Gly Thr Leu Ser Leu Ser Cys
 340 345 350

10 Val Ala Cys Ser Arg Phe Pro Asn Phe Ser Ile Leu Tyr Trp Leu Gly
 355 360 365

15 Asn Gly Ser Phe Ile Glu His Leu Pro Gly Arg Leu Trp Glu Gly Ser
 370 375 380

20 Thr Ser Arg Glu Arg Gly Ser Thr Gly Thr Gln Leu Cys Lys Ala Leu
 385 390 395 400

25 Val Leu Glu Gln Leu Thr Pro Ala Leu His Ser Thr Asn Phe Ser Cys
 405 410 415

30 Val Leu Val Asp Pro Glu Gln Val Val Gln Arg His Val Val Leu Ala
 420 425 430

35 Gln Leu Trp Val Arg Ser Pro Arg Arg Gly Leu Gln Glu Gln Glu Glu
 435 440 445

40 Leu Cys Phe His Met Trp Gly Gly Lys Gly Gly Leu Cys Gln Ser Ser
 450 455 460

45 Leu
 465

50 <210> 23
 <211> 910
 <212> PRT
 <213> Artificial sequence
 <220>
 <223>

55 <400> 23

Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
 1 5 10 15

Gly Ser Thr Gly Asp Thr Pro Val Ser Gln Thr Thr Thr Ala Ala Thr
 20 25 30

Ala Ser Val Arg Ser Thr Lys Asp Pro Cys Pro Ser Gln Pro Pro Val
 35 40 45

5 Phe Pro Ala Ala Lys Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu
 50 55 60

10 Val Glu Val Pro Leu Asn Gly Thr Leu Ser Leu Ser Cys Val Ala Cys
 65 70 75 80

15 Ser Arg Phe Pro Asn Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser
 85 90 95

Phe Ile Glu His Leu Pro Gly Arg Leu Trp Glu Gly Ser Thr Ser Arg
 100 105 110

20 Glu Arg Gly Ser Thr Gly Thr Gln Leu Cys Lys Ala Leu Val Leu Glu
 115 120 125

25 Gln Leu Thr Pro Ala Leu His Ser Thr Asn Phe Ser Cys Val Leu Val
 130 135 140

30 Asp Pro Glu Gln Val Val Gln Arg His Val Val Leu Ala Gln Leu Trp
 145 150 155 160

35 Val Arg Ser Pro Arg Arg Gly Leu Gln Glu Gln Glu Glu Leu Cys Phe
 165 170 175

His Met Trp Gly Gly Lys Gly Gly Leu Cys Gln Ser Ser Leu Gly Pro
 180 185 190

40 Pro Val Ser Cys Ile Lys Arg Asp Ser Pro Ile Gln Cys Ile Gln Ala
 195 200 205

45 Ile Ala Glu Asn Arg Ala Asp Ala Val Thr Leu Asp Gly Gly Phe Ile
 210 215 220

50 Tyr Glu Ala Gly Leu Ala Pro Tyr Lys Leu Arg Pro Val Ala Ala Glu
 225 230 235 240

55 Val Tyr Gly Thr Glu Arg Gln Pro Arg Thr His Tyr Tyr Ala Val Ala
 245 250 255

Val Val Lys Lys Gly Gly Ser Phe Gln Leu Asn Glu Leu Gln Gly Leu
 260 265 270

5 Lys Ser Cys His Thr Gly Leu Arg Arg Thr Ala Gly Trp Asn Val Pro
 275 280 285

10 Ile Gly Thr Leu Arg Pro Phe Leu Asn Trp Thr Gly Pro Pro Glu Pro
 290 295 300

15 Ile Glu Ala Ala Val Ala Arg Phe Phe Ser Ala Ser Cys Val Pro Gly
 305 310 315 320

20 Ala Asp Lys Gly Gln Phe Pro Asn Leu Cys Arg Leu Cys Ala Gly Thr
 325 330 335

Gly Glu Asn Lys Cys Ala Phe Ser Ser Gln Glu Pro Tyr Phe Ser Tyr
 340 345 350

25 Ser Gly Ala Phe Lys Cys Leu Arg Asp Gly Ala Gly Asp Val Ala Phe
 355 360 365

30 Ile Arg Glu Ser Thr Val Phe Glu Asp Leu Ser Asp Glu Ala Glu Arg
 370 375 380

35 Asp Glu Tyr Glu Leu Leu Cys Pro Asp Asn Thr Arg Lys Pro Val Asp
 385 390 395 400

40 Lys Phe Lys Asp Cys His Leu Ala Arg Val Pro Ser His Ala Val Val
 405 410 415

Ala Arg Ser Val Asn Gly Lys Glu Asp Ala Ile Trp Asn Leu Leu Arg
 420 425 430

45 Gln Ala Gln Glu Lys Phe Gly Lys Asp Lys Ser Pro Lys Phe Gln Leu
 435 440 445

50 Phe Gly Ser Pro Ser Gly Gln Lys Asp Leu Leu Phe Lys Asp Ser Ala
 450 455 460

55 Ile Gly Phe Ser Arg Val Pro Pro Arg Ile Asp Ser Gly Leu Tyr Leu
 465 470 475 480

Gly Ser Gly Tyr Phe Thr Ala Ile Gln Asn Leu Arg Lys Ser Glu Glu
 485 490 495
 5

Glu Val Ala Ala Arg Arg Ala Arg Val Val Trp Cys Ala Val Gly Glu
 500 505 510

10 Gln Glu Leu Arg Lys Cys Asn Gln Trp Ser Gly Leu Ser Glu Gly Ser
 515 520 525

15 Val Thr Cys Ser Ser Ala Ser Thr Thr Glu Asp Cys Ile Ala Leu Val
 530 535 540

20 Leu Lys Gly Glu Ala Asp Ala Met Ser Leu Asp Gly Gly Tyr Val Tyr
 545 550 555 560

Thr Ala Gly Lys Cys Gly Leu Val Pro Val Leu Ala Glu Asn Tyr Lys
 565 570 575
 25

Ser Gln Gln Ser Ser Asp Pro Asp Pro Asn Cys Val Asp Arg Pro Val
 580 585 590

30 Glu Gly Tyr Leu Ala Val Ala Val Val Arg Arg Ser Asp Thr Ser Leu
 595 600 605

35 Thr Trp Asn Ser Val Lys Gly Lys Lys Ser Cys His Thr Ala Val Asp
 610 615 620

Arg Thr Ala Gly Trp Asn Ile Pro Met Gly Leu Leu Phe Asn Gln Thr
 625 630 635 640
 40

Gly Ser Cys Lys Phe Asp Glu Tyr Phe Ser Gln Ser Cys Ala Pro Gly
 645 650 655
 45

Ser Asp Pro Arg Ser Asn Leu Cys Ala Leu Cys Ile Gly Asp Glu Gln
 660 665 670

50 Gly Glu Asn Lys Cys Val Pro Asn Ser Asn Glu Arg Tyr Tyr Gly Tyr
 675 680 685

55 Thr Gly Ala Phe Arg Cys Leu Ala Glu Asn Ala Gly Asp Val Ala Phe

690 695 7 00
 5 Val Lys Asp Val Thr Val Leu Gln Asn Thr Asp Gly Asn Asn Asn Glu
 705 710 715 720
 10 Ala Trp Ala Lys Asp Leu Lys Leu Ala Asp Phe Ala Leu Leu Cys Leu
 725 730 735
 15 Asp Gly Lys Arg Lys Pro Val Thr Glu Ala Arg Ser Cys His Leu Ala
 740 745 750
 20 Met Ala Pro Asn His Ala Val Val Ser Arg Met Asp Lys Val Glu Arg
 755 760 765
 25 Leu Lys Gln Val Leu Leu His Gln Gln Ala Lys Phe Gly Arg Asn Gly
 770 775 780
 30 Ser Asp Cys Pro Asp Lys Phe Cys Leu Phe Gln Ser Glu Thr Lys Asn
 785 790 795 800
 35 Leu Leu Phe Asn Asp Asn Thr Glu Cys Leu Ala Arg Leu His Gly Lys
 805 810 815
 40 Thr Thr Tyr Glu Lys Tyr Leu Gly Pro Gln Tyr Val Ala Gly Ile Thr
 820 825 830
 45 Asn Leu Lys Lys Cys Ser Thr Ser Pro Leu Leu Glu Ala Cys Glu Phe
 835 840 845
 50 Leu Arg Lys Val Pro Pro Leu Val Lys Val Thr His His Val Thr Ser
 850 855 860
 55 Ser Val Thr Thr Leu Arg Cys Arg Ala Leu Asn Tyr Tyr Pro Gln Asn
 865 870 875 880
 60 Ile Thr Met Lys Trp Leu Lys Asp Lys Gln Pro Met Asp Ala Lys Glu
 885 890 895
 65 Phe Glu Pro Lys Asp Val Leu Pro Asn Gly Asp Gly Thr Tyr
 900 905 910

<210> 24
 <211> 465
 <212> PRT
 <213> Artificial sequence
 5 <220>
 <223>
 <400> 24
 10 Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
 1 5 10 15
 Gly Ser Thr Gly Asp Thr Pro Val Ser Gln Thr Thr Thr Ala Ala Thr
 15 20 25 30
 Ala Ser Val Arg Ser Thr Lys Asp Pro Cys Pro Ser Gln Pro Pro Val
 20 35 40 45
 Phe Pro Ala Ala Lys Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu
 50 55 60
 25 Val Glu Val Pro Leu Asn Gly Thr Leu Ser Leu Ser Cys Val Ala Cys
 65 70 75 80
 30 Ser Arg Phe Pro Asn Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser
 85 90 95
 Phe Ile Glu His Leu Pro Gly Arg Leu Trp Glu Gly Ser Thr Ser Arg
 35 100 105 110
 Glu Arg Gly Ser Thr Gly Thr Gln Leu Cys Lys Ala Leu Val Leu Glu
 40 115 120 125
 Gln Leu Thr Pro Ala Leu His Ser Thr Asn Phe Ser Cys Val Leu Val
 130 135 140
 45 Asp Pro Glu Gln Val Val Gln Arg His Val Val Leu Ala Gln Leu Trp
 145 150 155 160
 50 Val Arg Ser Pro Arg Arg Gly Leu Gln Glu Gln Glu Glu Leu Cys Phe
 165 170 175
 55 His Met Trp Gly Gly Lys Gly Gly Leu Cys Gln Ser Ser Leu Arg Leu
 180 185 190

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Thr Ser Ser Val Thr Thr Leu Arg Cys Arg Ala Leu Asn Tyr Tyr Pro
385 390 395 400

405 410 415

5 Lys Glu Phe Glu Pro Lys Asp Val Leu Pro Asn Gly Asp Gly Thr Tyr
420 425 430

Gln Gly Trp Ile Thr Leu Ala Val Pro Pro Gly Glu Glu Gln Arg Tyr
435 440 445

10 Thr Cys Gln Val Glu His Pro Gly Leu Asp Gln Pro Leu Ile Val Ile
450 455 460

15 Trp
465